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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/615,008

07/07/2003

Gilad Almogy

PDC/7811

8177

7590

03/08/2005

PATENT COUNSEL
APPLIED MATERIALS, INC.
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EXAMINER

NGUYEN, HUNG

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/615,008	Applicant(s) ALMOGY ET AL.	
	Examiner Hung Henry V. Nguyen	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 (renumbered) is/are pending in the application.
- 4a) Of the above claim(s) 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/19/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I (claims 1-41) in the reply filed on January 13, 2005 is acknowledged. However, as stated in section 1 of the Restriction Requirement sent August 31, 2004, the numbering of claims in the present application is not in accordance with 37 CFR 1.126. Two claims are numbered as "claim 34" (see page 22 and page 23 of original paper submitted on July 7, 2003). Based on rule 37 CFR 1.126, misnumbered claim 34 (second occurrence) thru claim 87 have been respectively renumbered as claims 35-88. In other words, claims 1-88 are pending in this application (not 1-87 as original filed) and the restriction requirement has been done in accordance with these changes. As such, group I (renumbered claims 1-41) drawn to a method for recording a predefined multiple intensity level image on a substrate and group II (renumbered claims 42-88) drawn to a printer for recording an image on a substrate. Accordingly, independent original claim 41 which is now re-numbered as independent claim 42, relating to "a printer for recording a predefined multiple intensity level image on a substrate", belongs to group II and has been withdrawn from consideration.

Specification

2. The disclosure should be carefully reviewed and ensure that any and all grammatically, idiomatic, and spelling or other minor errors are corrected.

The specification of the disclosure is objected to because on page 2, line 4, reference to "bean" should be --beam--. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 9, 12, 14, 17-19, 22 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Paufler et al (U.S.Pat. 5,936,713).

With respect to claims 1, 12, 14, 17-19, 22 and 41, Paufler discloses a method for recording a predefined multiple intensity level image on a substrate (318) and comprising all basic steps of the instant claims such as: converting the predefined image to multiple intensity level associated images via beam splitter (310) and converting a light beam to multiple light beam arrays and modulating (302a-302 d)) each light beam array to generate modulated light beam array in response to a corresponding intensity level associated image to be recorded on the substrate (see col.4, lines 54 thru col.5, line 6), and directing each modulated light beam array to impinge on the substrate (see figure 4) and the maskless photolithography steps and repeats so that the entire surface of the wafer (318) is exposed and the light beam is generated by a pulsed laser (see col.4, line 54).

With respect to claim 2, Paufler discloses a step of eliminating coherence between different modulated light beam arrays (see col.5, lines 34-47).

As to claim 9, Paufler further teaches the intensity levels associated with intensity level associated image being different from each other by a factor of two (see col.4, lines 18-35).

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Gross (U.S.Pat. 6,765,934).

With respect to claims 1, 9, 12, 14, 17-19, 22 and 41, Gross discloses a method for recording a predefined multiple intensity level image on a substrate (35) and comprising all basic steps of the instant claims including: converting the predefined image to multiple intensity level associated images via beam splitter (see col.3, lines 49-50 and figure 2) and converting a light beam to multiple light beam arrays and modulating each light beam array to generate modulated light beam array in response to a corresponding intensity level associated image to be recorded on the substrate (see col.4, lines 16-23), and directing each modulated light beam array to impinge on the substrate and the photolithography steps and repeats by moving the substrate stage so that the entire surface of the wafer is exposed and the light beam is generated by a pulsed laser (see abstract)

With respect to claims 2-8, 10-11, 13-16, 20-21, 23-40, Gross further discloses a step of eliminating coherence between different modulated light beam arrays by using at least one

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optical delay path which receives the split light beams and delays the split beams by different amount (see col.3, lines 50-55) and the optical delay comprises a polarizing cube beam splitter and two retro-reflectors (see figure 2). Gross further teaches the intensity levels associated with intensity level associated image being different from each other by a factor of two (see col.4, lines 18-35) as well as steps of altering an intensity of at least one modulated light beam array by polarization (see col.10, lines 9-57) and step of focusing (element 30) the converted light beam on the substrate (35).

Prior Art Made of Record

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

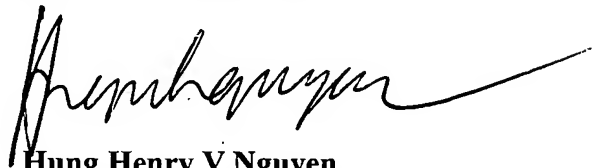
Ramanujan et al (U.S. Pat. 6,407,766) and Ramanujan et al (US 2003/0035123 A1) discloses method for printing high resolution images using multiple reflective modulators; Venkateswar (U.S.Pat. 5,721,622) discloses grayscale printing images method with spatial light modulators.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V. Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
3/1/05